

# CASE REPORTS

## Hygroton-Induced Myopia

PETER D'ALENA, M.D.

AND MARTIN ROBINSON, M.D., *San Jose*

THE PRESENT CASE is the fifth reported case of transient myopia due to chlorthalidone (Hygroton®) so far as could be determined from a search of the literature.\*

A 36-year-old white woman was first seen 17 November 1967 with complaint of blurred vision and swelling of the eyelids. As part of a weight reduction program, she had taken 50 mg of Hygroton® (chlorthalidone) on each of three days, November 10, 13 and 15. During this time she lost 8 pounds.

The symptoms had begun 15 November with severe supraorbital headache which lasted 24 hours and was not relieved by aspirin. The next morning the patient felt ill and remained in bed. During this time she noted pain in both eyes and a decrease in vision for distant objects. Her near vision remained normal.

On physical examination bilateral periorbital edema, conjunctival injection and chemosis were noted. These findings were considered similar to those seen in trichinosis and thyroid disease. Blood pressure was 120/80 mm of mercury, and the pulse 72 beats per minute and regular. Body weight was 206 pounds.

The patient had had viral pericarditis in April 1967, and she was receiving iron therapy for iron deficiency anemia secondary to gastrointestinal bleeding. Thyroid evaluation done seven months

previously was within normal limits. A hemogram done three weeks before the present episode was normal. The patient said she had received sulph-onamide drugs in the past without untoward effects.

Visual acuity with glasses was 20/200 in the right and 20/80 in the left eye. Her glasses contained only a small astigmatic correction. With a —3.00 D (diopter) sphere in the right and a —2.75 D sphere in the left eye, her visual acuity was 20/25 and 20/20 respectively. There was slight bilateral periorbital edema. Slit-lamp examination revealed moderate chemosis and conjunctival injection in both eyes. Near the limbus of the right cornea, at 9 o'clock, was a 1 mm shallow ulcer (dellen). Similar ulcers were present at 3 o'clock and at 9 o'clock of the left corneal limbus. Since the anterior chambers appeared shallow, the pupils were not dilated. No abnormality was observed on fundus examination, and intra-ocular pressure was normal. Orbital resistance was felt to be slightly increased in both eyes.

The patient was told to discontinue the Hygroton and to return in three days. At that time visual acuity (without glasses) was 20/25+ in each eye. Examination revealed minimal chemosis and conjunctival injection. The patient said that her vision continued to worsen for two days after she discontinued Hygroton but that the next day her vision had returned to normal.

A week later, visual acuity with glasses was 20/20 in each eye. Gonioscopy showed an open angle in both eyes. In the right eye, a small iris cyst was present at 9 o'clock. This cyst was the reason the anterior chamber appeared shallow on the slit lamp examination.

### Discussion

Other cases of transient myopia due to Hygroton have been reported. Michaelson<sup>1</sup> reported the case of a 41-year-old woman who experienced decreased vision six hours after taking one tablet of the drug. The acuity was corrected with a —3.75 D sphere in each eye. The drug was discontinued and visual acuity was normal three days later.

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Reprint requests to: San Jose Medical Research Foundation, 45 South 17th Street, San Jose 95112 (Dr. D'Alena).

\*Dr. Abraham Mizrahi of Geigy Pharmaceuticals, whose cooperation is here acknowledged, has in his files four cases of Hygroton-associated myopia not reported in the literature. In those cases the patients recovered in about three days without sequela.

Ericson<sup>2</sup> reported two cases of myopia during pregnancy. One patient was a 24-year-old woman in whom myopia developed six hours after she took one tablet of Hygroton. This was corrected by -3.00 D sphere in the right eye and -2.50 D sphere in the left eye. Bilateral macular edema was also noted. Use of the drug was stopped and vision was normal two days later. When the drug was given again, three months after parturition, no eye symptoms occurred. In the second case, that of a 28-year-old woman, myopia of -4.25 D in the right eye and -4.50 D in the left eye developed eight hours after ingestion of one tablet of Hygroton. No retinal edema was present. The patient took no more of the drug and vision was normal three days later. A few weeks later, while the patient was still pregnant, two tablets of Hygroton in divided doses produced myopia of -1.50 D in each eye. This cleared in three days after cessation of therapy.

Pallin and Ericson<sup>3</sup> did ultrasound determinations on a 45-year-old policeman who noted poor vision seven hours after taking a second tablet of Hygroton. A week earlier he had experienced severe nausea, vomiting and diarrhea five hours after one tablet of Hygroton but his vision had not been impaired at that time. The second episode was also accompanied by similar gastrointestinal disturbances in addition to poor vision and a pruritic rash. The gastrointestinal symptoms and rash cleared in 24 hours. Two days after the second Hygroton tablet was ingested the visual acuity was correctable to 20/20 with a -2.50 D sphere in each eye. The next day, after discontinuance of the drug, eye findings were the same. Ultrasound studies, one done at that time and another three weeks later, showed that the lens thickness was greater during the myopic phase.

The mechanism for the transient myopia produced by Hygroton, a heterocyclic sulfonamide, is unknown. Pallin and Ericson<sup>3</sup> expressed belief that certain features of the case they reported pointed to an allergic reaction. In the case reported herein, the periorbital edema, chemosis and conjunctivitis can also be interpreted as being consistent with allergic reaction. Mattson<sup>4</sup> explained the transient myopia occurring with sulfonamide drugs as due to an allergic edema of the ciliary body. This edema would produce myopia by relaxing the lens zonules. Swelling of the eyelids,<sup>5</sup> chemosis<sup>5</sup> and conjunctivitis<sup>6</sup> have also been associated with use of other sulfa drugs. Ericson<sup>2</sup>

thought the myopia could be the result of a change in the salt and water content of the lens, and that pregnant patients are more susceptible to the change.

Other drugs which have been reported to produce transient myopia include neoarsphenamine,<sup>7</sup> acetazolamide (Diamox),<sup>8</sup> hydrochlorothiazide (Hydro-Diuril),<sup>9</sup> and tetracyclines.<sup>10</sup>

The signs and symptoms caused by Hygroton, although alarming, disappear completely following discontinuance of the drug.

## Summary

A 36-year-old woman had conjunctivitis, chemosis, periorbital edema and myopia following ingestion of three tablets of Hygroton (50 mg). These signs disappeared within one week following discontinuance of the drug.

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## Hepatitis and Aplastic Anemia

ROBERT A. PERLMUTTER, M.D., *Canoga Park*

WHILE HEPATITIS is occasionally complicated by hematological problems, for the most part these problems are of no great moment. They may consist of hemolytic anemia, leukopenia and thrombocytopenia. Usually recovery occurs spontaneously as hepatitis abates. In the past several years there has been an occasional report of a much more serious complication, that of aplastic anemia following hepatitis. Most of the reports have been in the European literature, with only a few in this country. The purpose of this paper is to report an incident of hepatitis followed by a fatal course of aplastic anemia.

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Reprint requests to: Parkwood Community Hospital, 7011 Shoup Avenue, Canoga Park 91304.